temperatures of 5–40°C/41–104°F (optional)

• Suitable for outdoor installation in ambient

Typical gas analysis systems include:

- Further requirements for your process.

- Specialized and based on gas composition and

- Stabilization system. Our designs are application

- Experience in the design and supply of complete

Turnkey solutions

Besides analyzers, Hobré has over 35 years of

- Over 35 years of specific gravity cell.

- Injection interval is adjustable. Standard set

- High-temperature application

- Measures in accordance with the USA rule

- Operation, service and maintenance

- Protected against sun and rain, this robust ana-

- High dew point

- By reducing the amount of combusted gas

- Measures Wobbe Index, Calorific

- Zero hydrocarbon emissions

- Venting hydrocarbon gas into the atmosphere is

- Considering to be an undesirable practice. Hobré

- Has developed solutions for both the continuous

- And the injection version to allow zero hydrocar-

- By reducing the amount of combusted gas

- Provides a gas stream and is considered to be an

- Preventing condensation of water and/or heavy hy-

- Proprietary multiphobic membrane filtration

- Effective measuring range of 0–100% FS.

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- Effective measuring range of 0–100% FS.

- Field operation (no need for HVAC)

- Insensitive to ambient temperature fluctuati-

- Fast response (T90 < 5 seconds on Natural Gas)

- Fast response (T90 < 5 seconds on Natural Gas)

- Automatic/manual calibration

- High accuracy and repeatability

- Stable performance over the required tempera-

- Stability of performance at high pressure and

- Automatic/manual calibration

- Robust design built for rugged, harsh environ-

- Benefits

- Field response (T90 < 5 seconds on Natural Gas)

- High accuracy and repeatability

- Robust design built for rugged, harsh environ-

- Field operation (no need for HVAC)

- Effective measuring range of 0–100% FS.

- Output in W/m² (N/m², kcal/m²) and BTU/sft

- Available with integrated specific gravity cell.

- Minimal and easy maintenance

- Solution for corrosive and dirty applications

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- For correcting errors in air density and

- For correcting errors in air density and

- High dew point

- The injection-based analyzer measures at low, even

- Injection interval is adjustable. Standard set

- High-temperature application

- Type approvals are available for installation of the

- Zero hydrocarbon emission operation.

- By reducing the amount of combusted gas

- Provides a gas stream and is considered to be an

- Preventing condensation of water and/or heavy hy-

- Proprietary multiphobic membrane filtration

- Effective measuring range of 0–100% FS.

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- Effective measuring range of 0–100% FS.

- Field operation (no need for HVAC)

- Insensitive to ambient temperature fluctuati-

- Fast response (T90 < 5 seconds on Natural Gas)

- Automatic/manual calibration

- High accuracy and repeatability

- Stable performance over the required tempera-

- Stability of performance at high pressure and

- Robust design built for rugged, harsh environ-

- Benefits

- Field response (T90 < 5 seconds on Natural Gas)

- High accuracy and repeatability

- Robust design built for rugged, harsh environ-

- Field operation (no need for HVAC)

- Effective measuring range of 0–100% FS.

- Output in W/m² (N/m², kcal/m²) and BTU/sft

- Available with integrated specific gravity cell.

- Minimal and easy maintenance

- Solution for corrosive and dirty applications

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- For correcting errors in air density and

- For correcting errors in air density and

- High dew point

- The injection-based analyzer measures at low, even

- Injection interval is adjustable. Standard set

- High-temperature application

- Type approvals are available for installation of the

- Zero hydrocarbon emission operation.

- By reducing the amount of combusted gas

- Provides a gas stream and is considered to be an

- Preventing condensation of water and/or heavy hy-

- Proprietary multiphobic membrane filtration

- Effective measuring range of 0–100% FS.

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- Effective measuring range of 0–100% FS.

- Field operation (no need for HVAC)

- Insensitive to ambient temperature fluctuati-

- Fast response (T90 < 5 seconds on Natural Gas)

- Automatic/manual calibration

- High accuracy and repeatability

- Stable performance over the required tempera-

- Stability of performance at high pressure and

- Robust design built for rugged, harsh environ-

- Benefits

- Field response (T90 < 5 seconds on Natural Gas)

- High accuracy and repeatability

- Robust design built for rugged, harsh environ-

- Field operation (no need for HVAC)

- Effective measuring range of 0–100% FS.

- Output in W/m² (N/m², kcal/m²) and BTU/sft

- Available with integrated specific gravity cell.

- Minimal and easy maintenance

- Solution for corrosive and dirty applications

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- For correcting errors in air density and

- For correcting errors in air density and

- High dew point

- The injection-based analyzer measures at low, even

- Injection interval is adjustable. Standard set

- High-temperature application

- Type approvals are available for installation of the

- Zero hydrocarbon emission operation.

- By reducing the amount of combusted gas

- Provides a gas stream and is considered to be an

- Preventing condensation of water and/or heavy hy-

- Proprietary multiphobic membrane filtration

- Effective measuring range of 0–100% FS.

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- Effective measuring range of 0–100% FS.

- Field operation (no need for HVAC)

- Insensitive to ambient temperature fluctuati-

- Fast response (T90 < 5 seconds on Natural Gas)

- Automatic/manual calibration

- High accuracy and repeatability

- Stable performance over the required tempera-

- Stability of performance at high pressure and

- Robust design built for rugged, harsh environ-

- Benefits

- Field response (T90 < 5 seconds on Natural Gas)

- High accuracy and repeatability

- Robust design built for rugged, harsh environ-

- Field operation (no need for HVAC)

- Effective measuring range of 0–100% FS.

- Output in W/m² (N/m², kcal/m²) and BTU/sft

- Available with integrated specific gravity cell.

- Minimal and easy maintenance

- Solution for corrosive and dirty applications

- Flameless (no flame-out errors)

- Flameless (no flame-out errors)

- For correcting errors in air density and

- For correcting errors in air density and
Depending on the task, Hobré can offer a (fast-responding) unit or an injection version, which is capable of handling the most challenging applications.

The WIM COMPAS™ adds to Hobré’s portfolio of process analyzers for measuring Wobbe Index, 

- (Natural) Gas blending
- (Fast) Methane
- (Fast) Hydrogen
- (Fast) LPG

Typical applications

- Atmosphere
- Vent
- Zirconia
- Fl
- Drain
- Booster
- Air station
- Inlet air
- Injection valve
- Pressure reducer
- Display
- Booster
- Sample
- to flare

Atmosphere Vent Zirconia Fl Drain Booster Air station Inlet air Injection valve Pressure reducer Display Booster Sample to flare

Depending on configuration (typically 1,5 kVA), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

The WIM COMPAS™ is the preferred instrument to optimize gas-blending stations. It is frequently used for feed-forward control in turbine applications.

The continuous analyzer is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically -0.3 to 5 barg / 21.8 to 72.5 psig), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

The injection version offers a robust solution to the measurement of even the most challenging gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a sensor of instruments at the amount of air required for the combustion of this small volume of gas correlates directly to the Heating Value of the sample.

- HC Version for ambient temperature range of -20 up to +55°C (-4 °F up to 131 °F)
- HT High Temperature up to 150°C / 300°F (optional)
- FA Fast loop with alarm installed inside analyzer (including Multiphobic HPFF Filter) 7)
- ZE Zero Emission (optional)
- 2 2 analog outputs
- 2 2 digital outputs
- 0 Standard ambient temperature range +5 up to +40°C (41 °F up to 104 °F)
- H Heated electronics (optional)
- 0 No extra isolated relays added
- RM Remote operation / Modbus TCP/IP over Ethernet
- RO Remote operation / Modbus TCP/IP over Optical fiber
- 8 off extra isolated relays added (already included in ATEX II 2G / 3G, IECEx, KCS)
- 0 No extra isolated relays added
- 4) Pre-purge flow ATEX / IECEx / KCS / TR CU: 70 Nl/min. / Class 1
- 6) SPM Sample pressure monitoring
- 7) Please consult Hobré in case this option is required in combination with a High Temperature version.
- 3) IECEx / KCS / TR CU
- 5) Consult factory for different sample pressures
- 1) Measurement is based on the injection of a small volume of gas samples at atmospheric pressure in a sensor of instruments at the amount of air required for the combustion of this small volume of gas correlates directly to the Heating Value of the sample.
- 8) Fused static relay. not suitable for high current.
- 9) Power supply 220 Vac, 50 Hz, 40 Hz
- 1) Please consult Hobré in case this option is required in combination with a High Temperature version.
- 2) CARI= Combustion Air Requirement Index

Typical applications

Atmosphere Vent Zirconia Fl Drain Booster Air station Inlet air Injection valve Pressure reducer Display Booster Sample to flare

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1,5 kVA), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically -0.3 to 5 barg / 21.8 to 72.5 psig), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.

Depending on configuration (typically 1000 W), power consumption is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical surfaces. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured using a reliable, highly accurate ozone cell. The residual oxygen is a measure for the CARI and correlates well to the Wobbe Index.
High dew point
The injection based analyser measures at low, even atmospheric, pressure and handles high percentage levels of corrosive elements. By offering the possibility of increasing the temperature of the analyser to 110°C (230°F), the WIM COMPAS™ is capable of handling the most challenging applications, including flare and sour gas.

• By reducing the amount of condensate gas and the amount of air flushing in between injections, contamination in the hot section is minimised and availability is significantly increased.
• Suitable for flare gas containing high percentage levels of sulfur or other contaminants.
• Operates at atmospheric pressure, eliminating the need for a pump and preventing condensation of water and/or heavy hydrocarbons.

Suitable for applications requiring stabilization system. Our designs are application specific, and based on gas composition and certain levels of corrosive elements. In this way, Hobré develops solutions for both the continuous and the injection version to allow zero hydrocarbon emission operation.

Zero hydrocarbon emissions
Venting hydrogen gas into the atmosphere is considered to be an undesirable practice. Hobré has developed solutions for both the continuous and the injection version to allow zero hydrocarbon emission operation.

Injection based analyzer measures at low, even atmospheric pressure, eliminating the need for an external vent gas condensation system.

Direct measurement of heating value. No need for a specific gravity cell.
• Standard set-up time 30 seconds.

Benefits
• Fast response (T90 < 5 seconds on Natural Gas)
• Inert to hydrocarbon gas injection, fast response time and minimal liquid carryover.
• Minimal and easy maintenance
• Surface-mounted with NEMA4, IP65
• Flameless (no flame-out errors)
• Epoxy coated stainless steel (NEMA4, IP65)
• Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:
  - ATEX 2 G (Zone 1 IIIC T3/T4)
  - ATEX 3 G (Zone 2 IIIC T3/T4)
  - IECEx II 2G (Zone 1 IIC T3/T4)
  - IECEx II 3G (Zone 2 IIC T3/T4)
  - Class 1, Division 2, Group B,C,D
  - KCS (Zone 1 IIC T3/T4)
  - TR CU (Zone 1 IIC T3/T4)
  - Zone 2 (II IIC T3/T4)

WIM COMPAS™
Wobbe Index, calorific value and BTU Analyzer

General information
Operation, service and maintenance
Protected against sun and rain, this robust analyzer is suitable for outdoor installation in a harsh industrial environment. The periodically required calibration can be performed manually or automatically on a timed interval. Generally, the calibration goes last many years. The analyzer only has a few parts that require regular servicing, and it is designed for safe and easy maintenance.

Zero hydrocarbon emissions
Venting hydrogen gas into the atmosphere is considered to be an undesirable practice. Hobré has developed solutions for both the continuous and the injection version to allow zero hydrocarbon emission operation.

Benefits
• Fast response (T90 < 5 seconds on Natural Gas)
• High accuracy and repeatability
• Automatic/manual calibration
• High accuracy and repeatability
• Inert to hydrocarbon gas injection, fast response time and minimal liquid carryover.
• Minimal and easy maintenance
• Surface-mounted with NEMA4, IP65
• Flameless (no flame-out errors)
• Epoxy coated stainless steel (NEMA4, IP65)
• Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:
  - ATEX 2 G (Zone 1 IIIC T3/T4)
  - ATEX 3 G (Zone 2 IIIC T3/T4)
  - IECEx II 2G (Zone 1 IIC T3/T4)
  - IECEx II 3G (Zone 2 IIC T3/T4)
  - Class 1, Division 2, Group B,C,D
  - KCS (Zone 1 IIC T3/T4)

HOBRE SERVICES
• FEASIBILITY STUDY & ENGINEERING
• COMMISSIONING, SAT AND START-UP
• TRAINING
• PREVENTIVE AND CORRECTIVE FIELD SERVICES
• IN-PLANT MAINTENANCE AND REPAIR
• SPARE PARTS AND SPARES
• REMOTE SUPPORT

HOBRE INSTRUMENTS
HOBRE IS A LEADER IN THE DESIGN, MANUFACTURING AND MAINTENANCE OF ONLINE ANALYZERS, SAMPLE SYSTEMS AND COMPLETE TURBINE ANALYZER SYSTEMS. ESTABLISHED IN 1978, OUR COMPANY FOCUSES MAINLY UPON PROVIDING SOLUTIONS FOR THE ON-LINE GAS INDUSTRY AND PETROCHEMICAL SECTOR WORLDWIDE.

Applications
• Measuring Wobbe Index, Combustion Air Requirement Index (CARI) and Calorific Value of Natural Gas and Gaseous Fuels

Certifications
Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:
• ATEX 2 G (Zone 1 IIIC T3/T4)
• ATEX 3 G (Zone 2 IIIC T3/T4)
• IECEx II 2G (Zone 1 IIC T3/T4)
• IECEx II 3G (Zone 2 IIC T3/T4)
• Class 1, Division 2, Group B,C,D (Zone 2 compliant)
• KCS (Zone 1 IIC T3/T4)
• TR CU (Zone 1 IIC T3/T4)

HOBRE INSTRUMENTS
WIM COMPAS™
Wobbe Index, Calorific Value and BTU Analyzer

General information
Operation, service and maintenance
Protected against sun and rain, this robust analyzer is suitable for outdoor installation in a harsh industrial environment. The periodically required calibration can be performed manually or automatically on a timed interval. Generally, the calibration goes last many years. The analyzer only has a few parts that require regular servicing, and it is designed for safe and easy maintenance.

Zero hydrocarbon emissions
Venting hydrogen gas into the atmosphere is considered to be an undesirable practice. Hobré has developed solutions for both the continuous and the injection version to allow zero hydrocarbon emission operation.

Benefits
• Fast response (T90 < 5 seconds on Natural Gas)
• High accuracy and repeatability
• Automatic/manual calibration
• High accuracy and repeatability
• Inert to hydrocarbon gas injection, fast response time and minimal liquid carryover.
• Minimal and easy maintenance
• Surface-mounted with NEMA4, IP65
• Flameless (no flame-out errors)
• Epoxy coated stainless steel (NEMA4, IP65)
• Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:
  - ATEX 2 G (Zone 1 IIIC T3/T4)
  - ATEX 3 G (Zone 2 IIIC T3/T4)
  - IECEx II 2G (Zone 1 IIC T3/T4)
  - IECEx II 3G (Zone 2 IIC T3/T4)
  - Class 1, Division 2, Group B,C,D
  - KCS (Zone 1 IIC T3/T4)

HOBRE SERVICES
• FEASIBILITY STUDY & ENGINEERING
• COMMISSIONING, SAT AND START-UP
• TRAINING
• PREVENTIVE AND CORRECTIVE FIELD SERVICES
• IN-PLANT MAINTENANCE AND REPAIR
• SPARE PARTS AND SPARES
• REMOTE SUPPORT

HOBRE INSTRUMENTS
HOBRE IS A LEADER IN THE DESIGN, MANUFACTURING AND MAINTENANCE OF ONLINE ANALYZERS, SAMPLE SYSTEMS AND COMPLETE TURBINE ANALYZER SYSTEMS. ESTABLISHED IN 1978, OUR COMPANY FOCUSES MAINLY UPON PROVIDING SOLUTIONS FOR THE ON-LINE GAS INDUSTRY AND PETROCHEMICAL SECTOR WORLDWIDE.

Applications
• Measuring Wobbe Index, Combustion Air Requirement Index (CARI) and Calorific Value of Natural Gas and Gaseous Fuels

Certifications
Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:
• ATEX 2 G (Zone 1 IIIC T3/T4)
• ATEX 3 G (Zone 2 IIIC T3/T4)
• IECEx II 2G (Zone 1 IIC T3/T4)
• IECEx II 3G (Zone 2 IIC T3/T4)
• Class 1, Division 2, Group B,C,D (Zone 2 compliant)
• KCS (Zone 1 IIC T3/T4)
• TR CU (Zone 1 IIC T3/T4)

WWW.HOBRE.COM

Contact
HOBRE INSTRUMENTS
NETHERLANDS
1446 WK PURMEEND
THE NETHERLANDS
TELEPHONE +31 299 420 871
TELEFAX +31 299 423 302
INFO@HOBRE.COM

WIM COMPAS™
Wobbe Index, Calorific Value and BTU Analyzer
Depending on the task, Hobré can offer a continuous measurement of the complete combustion of sample gas. This method is referred to in ASTM D4891-13 and ISO 15971.

20+ years of success and experience with residual oxygen type analyzers. The analyzer is considered well to the Wobbe Index.

The WIM COMPAS™ is the instrument of choice for feed-forward balancing gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a carrier of instrument air.

The continuous analyzer is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical orifices. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured with a reliable, highly accurate zirconia cell. The residual oxygen is a measure for the calorific value and correlates well to the Wobbe Index.

The injection version offers a robust solution to the measurement of even the most challenging gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a carrier of instrument air. The amount of air required for the combustion of this small volume of gas correlates directly to the calorific value of the sample.

The injection version is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical orifices. The air-fuel mixture is combusted in a catalytic oven and the residual oxygen is measured with a reliable, highly accurate zirconia cell. The residual oxygen is a measure for the calorific value and correlates well to the Wobbe Index.

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Application</th>
<th>Natural Gas, Flue Gas, flare Gas, Biogas, LNG, CNG, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring principle</td>
<td>Vibrational (zirconia) technology</td>
</tr>
<tr>
<td>Sample wet parts</td>
<td>Stainless steel and Platinum</td>
</tr>
<tr>
<td>Installation options</td>
<td>Safe area</td>
</tr>
<tr>
<td>Monitoring systems</td>
<td>C ATEX</td>
</tr>
<tr>
<td>Response time</td>
<td>&lt; 5 seconds on Natural Gas (includes lag time and rise time)</td>
</tr>
<tr>
<td>Drift</td>
<td>&lt; ±0.05% or ±30 kJ per day (whichever is higher)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.5% of full scale or ±50 kJ/Nm³ (whichever is higher)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±1.0% of full scale for Natural Gas</td>
</tr>
<tr>
<td>Measuring Ranges (Continuous version)</td>
<td>0 – 25 range</td>
</tr>
<tr>
<td>Measuring Ranges (Injection version)</td>
<td>0 – 10 range</td>
</tr>
<tr>
<td>Outputs (Continuous/Injection)</td>
<td>Communications options: Remote operation / Modbus TCP/IP and Modbus RTU over Ethernet and Modbus RTU over Optical fiber</td>
</tr>
<tr>
<td>Utilisation</td>
<td>Standard version</td>
</tr>
</tbody>
</table>

**ORDER CODES**

- F: Standard version
- LP: Integrated sample pump and base (1.5 - 5 barg [21.3 - 72.5 psig]) - N/A for High Temperature version
- C: Continuous measurement principle (0.5 - 15 barG [7.2 - 21.8 psig]) - N/A for High Temperature version

- 1: Injection system suitable for high dew points and/or corrosive elements (0.3 – 1.5 barg [4.4 - 21.3 psig])

- 115: Power supply 115 VAC, 60 Hz
- 230: Power supply 230 VAC, 50 Hz

- 6: No specific gravity meter
- SD: Static pressure downstream (0 - 1.5 barg [21.8 psig]) - N/A for injection version
- SGC: Oscillating gas up to 15 psig (0.7 barg)
- 3: No sample pressure monitoring
- XMP: Sample pressure monitoring
- GPA: Gas flow alarm
- IPN: User interface / Sample pressure monitoring

**Typical applications**

- **Natural Gas blending**
  - Offering an unmatched combinst of speed, response, accuracy, repeatability and availability, the WIM COMPASS™ is the preferred solution for feed-forward balancing gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a carrier of instrument air.

- **Fired heaters**
  - Hobré’s WIM COMPASS™ is frequently used for feed-forward balancing gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a carrier of instrument air.

- **Atmosphere**
  - For more detailed information, please contact our sales representatives through +31 299 420 871
Depending on the task, Hobré can offer a continuous (fast-responding) unit or an injection version, which is capable of handling the most challenging applications.

The WIM COMPAS™ is the instrument of choice for continuous and repeatability. A small sample flow is mixed continuously with dry air over critical orifices. The air–fuel mixture is combusted in a catalytic oven in the presence of Zirconia sensors. The emitted energy is measured in a Zirconia sensor.

The principle of operation is based on the measurement of the amount of air required for combustion processes. Designed and manufactured in-house, the WIM COMPAS™ builds on Hobré’s 20+ years of success and experience with residual oxygen type analyzers. The analyzer is considered a market leader in the oil & gas industry. Today, Hobré offers the fourth generation of WIM analyzers to the market.

The continuous analyzer is designed for maximum performance in terms of response time and repeatability. A small sample flow is mixed continuously with dry air over critical orifices. The air–fuel mixture is combusted in a catalytic oven and the residual oxygen is measured. It is a reliable, highly accurate zero cell. The residual oxygen is measured by the WIM and correlates well to the Wobbe Index.

The injection version offers a robust solution to the measurement of even the most challenging gas samples, such as sour gas and flare gas. The measurement is based on the injection of very small amounts of gas samples at atmospheric pressure in a catalytic oven. The analyzers are available in all possible configurations. Due to its speed of response, the WIM is the preferred instrument for high-temperature applications.

**Typical applications**

(Natural) Gas blending

- Fired heaters
- Gas turbine control
- Gas turbine control in turbine applications
- Steam injection
- Steam turbines

Gas turbine control

- Electric power generation
- Heat and power
- Combined cycle
- CCPP

Gas turbine control

- Gas turbine control
- Gas turbine control in turbine applications
- Steam injection
- Steam turbines

**TECHNICAL SPECIFICATIONS**

- **Applicability**: Natural Gas, Flare Gas, Fuel Gas, Biogas, NGV, LNG, LPG
- **Measuring principle**: Residual Oxygen technology
- **Sample part flow**: 15 Nl/min, 0.5 Nl/min
- **Installation options**: Safe area, Ex
- **Measuring Range (Continuous Version)**

  - **Wobbe Index**: 0 – 100 MJ/Nm³ / 0 – 2500 BTU/scf range (50 MJ/Nm³ / 1250 BTU/scf span)
  - **Air Demand**: 0 – 50 range
  - **Heating Value**: 15 MJ/Nm³ / 4.500 BTU/scf range (5 MJ/Nm³ / 1500 BTU/scf span)
  - **Specific Gravity**: 1.00 – 1.50 range

- **Measuring Range (Injection Version)**

  - **Wobbe Index**: 0 – 100 MJ/Nm³ / 0 – 2500 BTU/scf range (50 MJ/Nm³ / 1250 BTU/scf span)
  - **Air Demand**: 0 – 50 range
  - **Heating Value**: 15 MJ/Nm³ / 4.500 BTU/scf range (5 MJ/Nm³ / 1500 BTU/scf span)
  - **Specific Gravity**: 1.00 – 1.50 range

**Response time**

- **CV signal**

  - T90 < 5 seconds (typically on Natural Gas)

- **CV signal**

  - T90 < 5 seconds on Natural Gas (includes lag time and rise time)

- **Drift**: < ± 0.05% or ± 30 kJ per day (whichever is higher)

- **Update time**: Default ~30 seconds (Injection interval)

- **Drift**

  - < ± 0.05% or ± 30 kJ per day (whichever is higher)

- **Update time**: Default ~30 seconds (Injection interval)

**Outputs (Continuous/Injection)**

- **Local display**: with dedicated touchpad (all functions)
- **Remote Operation**: with Modbus TCP/IP (optional)
- **Remote Operation**: with Modbus RTU (optional)

**Measuring principle**

- Residual Oxygen technology

**Technical Data**

- **Installation Options**

  - Safe area

- **Mounting**

  - Wall mounting

- **Power consumption**

  - 230 VAC, 50/60 Hz

- **Power supply**

  - 115 VAC, 300 Hz, 115 VAC, 50/60 Hz

**ORDER CODES**

- **P**: Standard version
- **L**: Integrated sample pump and base (0.5 – 1.5 bar/23 – 21 psig) - Not for High-Temperature version

**C**: Continuous Analyzer measurement principle: 0.5 – 2.5 bar (33 – 72 psig) - Not for High-Temperature version

1) *Injection system available for high dew points and/or corrosive components (3.1.5 bar / 60 – 210 psig)*

2) *Primary Degas / Secondary Degas (12 – 22 psig)/ 10 barg (150 psig)*

3) *For technical and commercial information, contact your local Hobré representative.*

**Note:** Contact your local Hobré representative for more detailed information.
High dew point
The injection-based analyzer measures at low, even atmospheric, pressure and handles high percentage levels of corrosive elements. By offering the possibility of lowering the temperature of the analyzer to 1118 and EPA Flare Emissions 40 CFR.

Typical gas analysis systems include:

- Stabilization system. Our designs are application specific, and based on gas composition and further requirements for your process.

Typical gas analysis systems include:

- Operation, service and maintenance
- Protection against sun and rain. This robust analyzer is suitable for outdoor installation in a harsh industrial environment. The periodically required calibration can be performed manually or automatically on a timed interval. Generally, the calibration gases last many years. The analyzer only has a few parts that require regular servicing, and it is designed for safe and easy maintenance.

Zero hydrogen emissions
Venting hydrogen gas into the atmosphere is considered to be an undesirable practice. Hobré has developed solutions for both the continuous and the injection version to allow zero hydrogen emission operation.

High-temperature application
Knowing the dew point for a gas combined with certain levels of corrosive elements is crucial for the success of many applications. As standard, the WIM COMPAS™ can be heated to 55°C (131°F). If necessary, hot application units (up to 150°C/300°F) are available upon request.

Certifications
Type approvals are available for installation of the WIM COMPAS™ in the following hazardous areas:

- ATEX II 2D (Zone 1 IIC T3/T4)
- ATEX II 2G (Zone 2 IIC T3/T4)
- IECEx II 2G (Zone 1 IIC T3/T4)
- IECEx II 2D (Zone 2 IIC T3/T4)
- Class 1, Division 2, Group B,C,D (Zone 2 compliant)
- KCS (Zone 1 IIC T3/T4)
- TR CU (Zone 1 IIC T3/T4)

Benefits

- Fast response (<5s on Natural Gas)
- High accuracy and repeatability
- Automatic/manual calibration
- Stabilization system. Our designs are application specific, and based on gas composition and further requirements for your process.

Epoxy coated stainless steel (NEMA4, IP65)

- Flameless (no flame-out errors)
- Insensitive to ambient temperature fluctuations
- Effective measuring range of 0-100% FS.
- Fast response time and minimal liquid carryover.

Output in MJ/Nm³, kcal/Nm³ and BTU/scf

Analysis

- Wobbe Index
- Value of Natural Gas and Gaseous Fuels
- Requirement Index (CARI) and Calorific Value
- Wobbe Index, Combustion Air

Measures Wobbe Index, Combustion Air Requirement Index (CARI) and Calorific Value of Natural Gas and Gaseous Fuels